

Rockwood

The **Invisible Home...**





The INVISIBLE HOME

FOR over seventy years, Johns-Manville has been recognized as an authority on the subject of insulation. Materials of the highest insulating efficiency possible have been developed and perfected to meet every temperature range from the highest furnace ranges to the lowest sub-zero service and for every type of service condition, both for industrial and home requirement.

This book now introduces to you Johns-Manville Home Insulation—the ultimate in home insulation—which is the result of several years of careful study and experimentation of various materials to find the one that is most efficient for insulating homes—old and new. It is blown into the walls, creating an “invisible home” of comfort within your home.

Produced by Johns-Manville, a leading authority on insulation, J-M Home Insulation has the same standard quality that has won for other J-M products a lasting reputation for long, efficient service, at a reasonable cost.



A HOME THAT IS "BLOWN" FULL OF COMFORT

The home of M. Petrie of St. Albans, L. I. (shown above) has been blown full of comfort with J-M Home Insulation. A small gas heating plant was installed in this house with a saving in cost of boiler plus a saving of fuel



Why You SHOULD INSULATE Your Home

HOME is synonymous with comfort. When we think of home we think of a comfortable place to live in. Yet, how do we measure the comfort of the home? By the arrangement of rooms; by the furniture and furnishings; by the conveniences you have been able to buy?

How much comfort would you derive from the best arrangement of your rooms, if the house were cold and dismal? Could you enjoy the comforts of the most luxurious furniture or furnishings in a home that was not livable? What amount of comfort could modern conveniences such as electric refrigerators, radios, lighting systems or the most modern of heating plants give you, were the house itself uncomfortable?

What is real comfort?

The measure of home comfort is the house itself. Take the two extreme days of the year—the coldest and the hottest. Measure your home comfort in reference to these two days. Is your home as livable on these days as it is in mild weather? Are the attic and the top floor of your home hot and unbearable on baking hot days? Or is the whole house warm and cozy in the

coldest of winter and restfully cool in summer?

In a house of ordinary construction, heat passes rapidly through the walls and roof. It is this *heat leakage* that makes it so hard for you to keep heat in on the upper floor and in the rooms that face the north—where heat is needed. In summer time, the heat of the sun penetrates and makes the attic and the floor immediately below as hot as a bake oven.

The home must be livable

Everyone, no matter who he is, nor where he lives, wants his home to be complete in comfort. In winter, when the angry, cold winds howl around our home and the snow piles high in the frosty night, we want to sit in comfort and contentment in a warm and cozy home, free from excessive furnace cares. And in summer, too, while a blazing sun seems to blister life out-of-doors, we want to enjoy a cool and comfortable home.

It is easy and economical to have such a home—a livable home. Proper, *thick* Insulation in the walls and roof of your home will keep heat where it belongs—inside in winter, when you need it there, and outside in summer.

Insulation in the home means the use of a material that resists the passage of heat. This heat-resisting element in the material is the "dead air" cells it holds. This "dead air" is air that is absolutely still and not in circulation and the more dead air cells there are, and the smaller they are, the better the insulation.

Heat loss is reduced

Now, the air space between the inside and outside walls of your home, is not dead air and it does not check heat leakage. Contrariwise, since it is free to circulate to some extent, it increases conductivity of heat through the walls. Thus heat passes through freely. If this air space between the walls were filled with a *thick* material that holds millions of "dead air" cells in small confined spaces, the walls would be properly insulated *with heat loss reduced to a minimum*.

J-M Home Insulation is a *thick* insulation containing millions and millions of tiny dead air cells,

with each cell resisting firmly the circulation of air. Besides, the material itself—rock wool—resists the passage of heat and noise.

There is nothing mysterious about insulation. In every home you will find many examples of its use. The furnace and furnace pipes are insulated to stop heat from escaping and wasting fuel. Insulation in your refrigerator prevents the heat from penetrating and melting the ice too rapidly. In the same way the J-M Home Insulation retards the passage of heat from the hotter to the colder element.

J-M Home Insulation reduces the *leakage* of heat generated by your furnace to a minimum. Since heat stays inside longer, when J-M Home Insulation is used, less heat is required and your furnace needs less attention. You save fuel, which within a few years will pay for the cost of this efficient insulating material. And in the summer time you will have a home that will be from 8° to 15° cooler than it is outside.

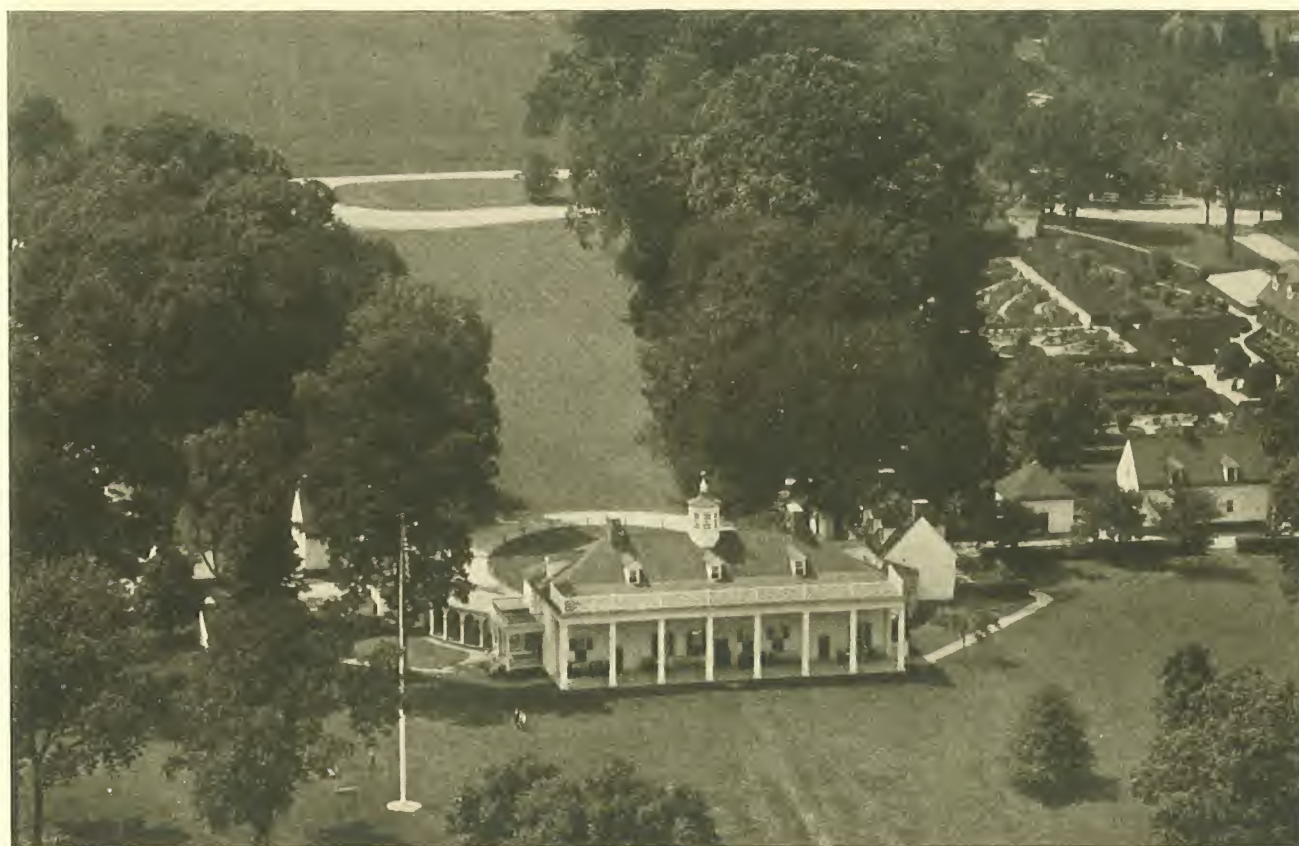
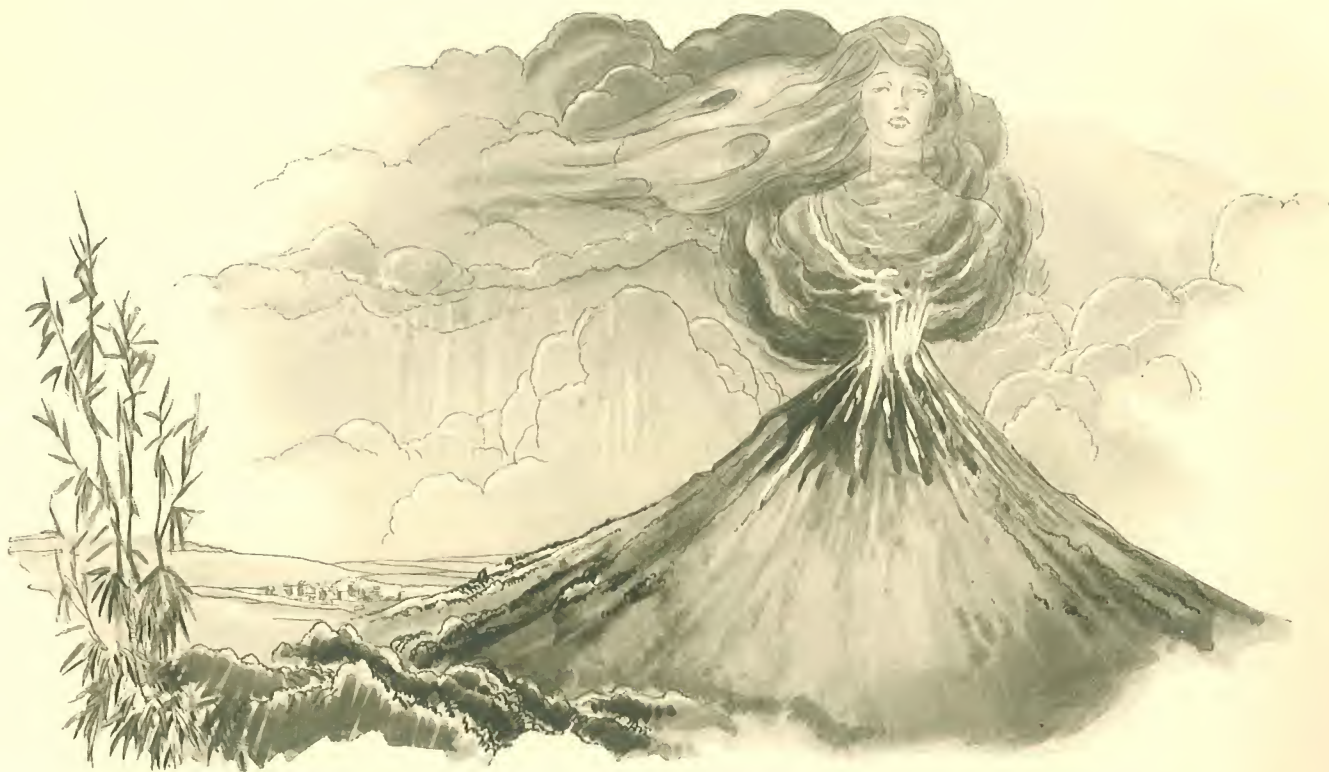


PHOTO BY FAIRCHILD AERIAL SURVEYS, INC.

THE WASHINGTON MANSION AT MT. VERNON

This national shrine is insulated with J-M Home Insulation, which was installed principally as a fire protection with the added advantage of complete insulation



Goddess Rauoho o Pele holds her court in the "House of Everlasting Fire," the volcano Hale-mau-mau

What is J-M HOME INSULATION?

J-M HOME INSULATION is made from rock. The rock is melted and blown into shreds resembling sheep's wool. Since it is made of rock, it is everlasting and fireproof. Since it contains millions of dead air cells it has a high insulating value.

There is a real interesting history to rock wool. In its earliest forms it was found in Nature. Let us read something about its interesting past.

A volcano revealed this secret of nature

In Hawaii, there is a volcano called Hale-mau-mau, or the "House of Everlasting Fire." On this volcano, in the crater of Kilauea, the Hawaiian goddess, Rauoho o Pele, used to hold her court.

When in an angry mood, the volcano threw up molten lava. The wind caught this liquid rock in mid-air and blew it into threads like fine silky hair. The natives called it Pele's Hair, or the hair of their goddess. Scattered by gusts of wind, it could be collected in handfuls from the rocks.

Pele's work must have been a spectacular sight at night, with a boiling mass of liquid rock discharging sprays of red fire toward the sky, only to be scattered by gusts of wind into flying drops that seemed like a mixture of sparkling bright stars and downy snowflakes, fluttering in the wind. A sight never to be forgotten!

The singular feature of this "hair" is that it is fireproof. It is born of fire. Although coming out of intense, boiling fire, it was not consumed

into smoke but was drawn out into a silky mass, still retaining its original qualities. It is, no doubt, Pele's Hair that originated the manufacture of rock wool—this curious fireproof, insulating material.

Rock wool is blown out of molten rock

The next step in the progress toward rock wool was the discovery of a wooly, slag deposit around hot-blast furnaces. This deposit, better known as Mineral Wool, resembled "Pele's Hair" in every respect but color. It is the forerunner of rock wool.

In the late fall of 1897, Mr. Charles C. Hall, a chemical engineer with a steel plant at Alexandria, a gas boom town in central Indiana, became familiar with Mineral Wool, and learned of the factors which were causing the limited use of this material, due to the sulphur and other chemicals in the wool, which tended to disintegrate the wool and make it deteriorate and lose its insulating qualities in a comparatively short time.

At first his interest was merely scientific, but closer investigation of not only Mineral Wool, but the entire insulation field as well, led this engineer to the conclusion that a permanent

Mineral Wool, if such were possible, would result in greatly increasing the potential uses of this type of material.

So he began a series of trying experiments, which resulted in the invention of a new product which had unlimited possibilities as an insulation and sound deadener, and he immediately made plans to put his invention into the hands of every home owner and builder.

Around the development of rock wool by Mr. Hall is woven a story that is full of hardships and disappointments, mingled with determination and hard work. It is too long except for mention in these pages but it is a story of vision, perseverance and ultimate success.

The ultimate in home insulation

J-M Insulation, the outgrowth of Mr. Hall's experiments, is made of fine silky rock wool and is as permanent as the rocks from which it is made. It is fireproof and its millions of air cells give it a high insulating quality which is everlasting. It is a *thick* insulation, for when it is blown into the walls and roof of your home it is almost four inches thick, filling completely the space between the outer and inner walls.

J-M Home Insulation is the result of years of experimentation and actual use in homes of all types. It is a development in home insulation produced by Johns-Manville, a leader in insulation for over seventy years.

It is the ultimate in home insulation—the most economical and the most efficient for use in every type of home—old home or new home under construction.

No one can afford to waste fuel and no one wants to; yet everyone wants a home that is comfortable in the coldest weather. Today no one needs waste fuel by overworking the furnace to keep the house comfortably warm in zero weather. J-M Home Insulation checks *heat leakages*, reduces the need for furnace attention, saves fuel, and makes living conditions more healthy and comfortable—in other words, it makes the house more livable.

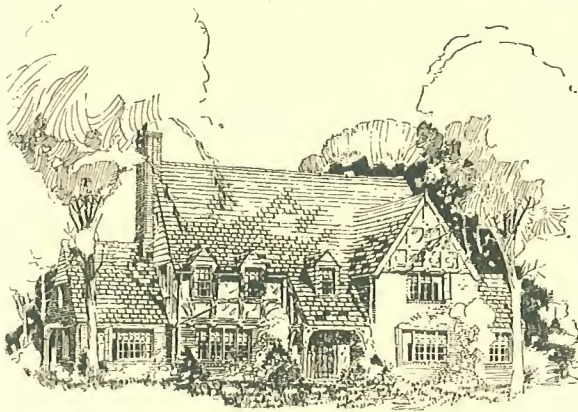
Why not make your home the ultimate in comfort by "blowing an Invisible Home" of J-M Home Insulation into the *walls and roof* of your house? (See page 24).



A MODEL HOME

*Built by Rodman & English Building Corp. in St. Albans, L. I.,
completely insulated with J-M Home Insulation*

For new homes as well as old

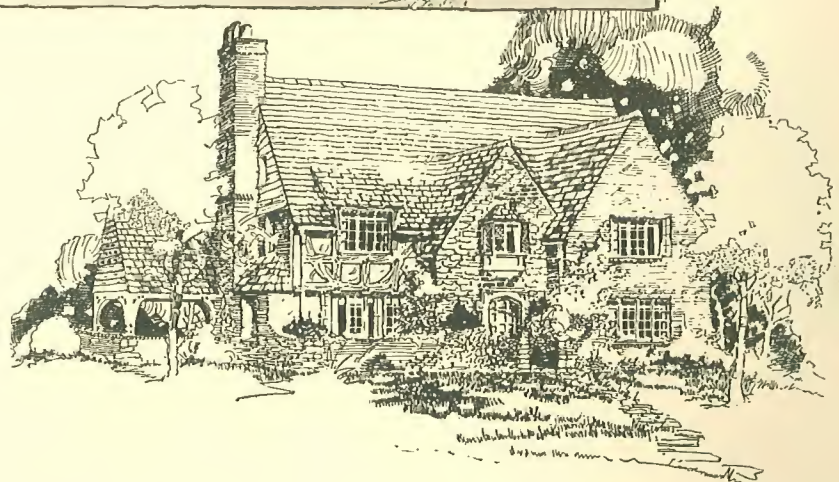


When these new homes were designed, J-M Home Insulation was included on the architect's specifications, because the architect knew that the many advantages of this rock wool insulation would make these homes more comfortable, summer and winter, and be of greater value to their owners.

Designed by
Royal Barry Wills, Architect, Boston, Mass.
Associated with Vincent E. Squires



An "Invisible Home" of J-M Insulation is a means of reducing costs of living, promoting more healthful and comfortable living conditions, summer and winter, in all types of homes—old or new.



Here is a home being "blown" full of comfort



Note how the hose is carefully laid in order that no shrub is mutilated or in any way harmed. In the same careful way the ladders are handled so that your home and surroundings are left in the same condition as they were before work began



BLOWING

The young man in the photograph above is handling the hose that is rapidly filling the walls of this home full of J-M Home Insulation



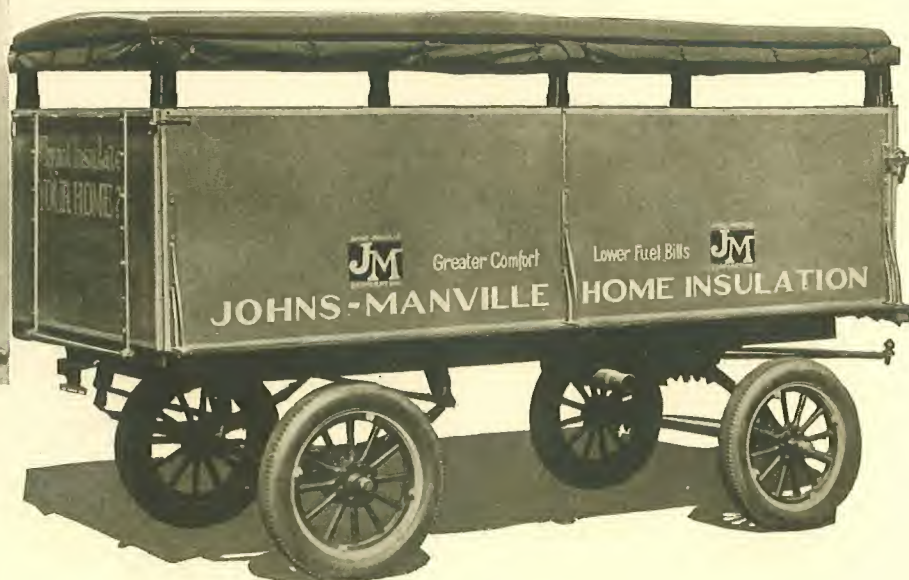
FINISHING

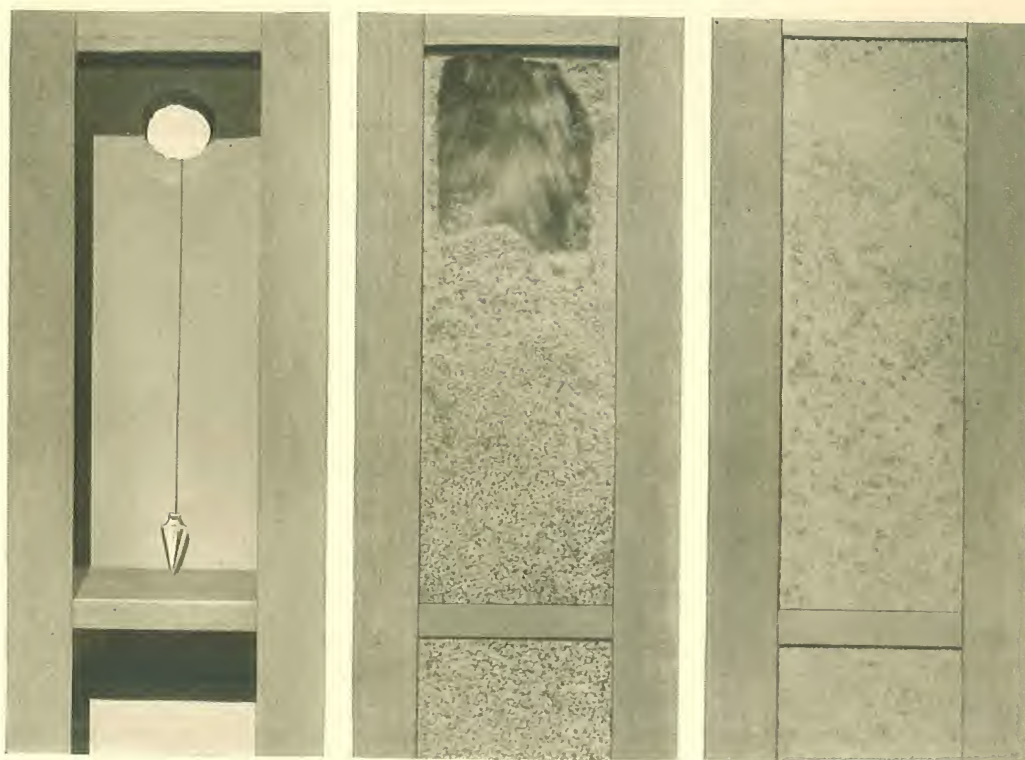
The workman at the left is replacing siding after the wall was filled with "rock wool." The outside finish is matched perfectly



IT DOES THE WORK

Two views of one of the "blowing" machines. (Above) ready for action. (Right) closed up after the "Invisible Home" has been "blown"





HOW AN "INVISIBLE HOME" IS INSTALLED

First a plumb bob is inserted in the hole to locate any horizontal obstructions—braces or fire stops. Under this obstruction another hole is made. Then the blowing begins (see center photograph). The picture on extreme right shows how well the Rock Wool is packed into the walls. Do you wonder that it checks heat leakage?

"Blow" COMFORT into YOUR HOME

J-M HOME INSULATION is installed into the home in a most unusual and novel manner. It is blown in pneumatically, that is, with compressed air—in a really ingenious way. This method is the *only* practical method of insulating the walls of homes already constructed. And it can be used in homes under construction.

All the work is done on the outside. Nothing is disturbed inside the house. There is no litter or dust. The usual home activities continue without interruption. Not a shrub, nor a tree, nor the lawn is harmed. All the work is done by well-trained, experienced, courteous men.

Millions of homes now built without insulation can be insulated with no more fuss than installing a few additional electric wall plugs.

No one need go without proper insulation, for J-M Home Insulation is installed so easily and so economically. It insulates your home completely. Every wall is protected by an invisible wall of *thick* insulation—by an "Invisible Home"—a house within your house.

Method of installation

Just imagine your home being blown full of comfort—an invisible home blown into the walls of your house, making it warm in winter and cool and comfortable in summer.

Early in the morning a truck drawing a trailer pulls up in front of your home. The truck is filled with bags and bags of J-M Home Insulation. In the trailer is the pneumatic machinery for blow-

ing the rock wool into the walls and roof of your home, making it more "live-in-able."

With no unnecessary noise or commotion, the crew begins to work. While some of the men get the blower ready, the rest start work on the house. Ladders are put up carefully and a man climbs up to the attic to locate the position of the studs. A three-inch hose is attached to the blower, the blower-box is filled with several bags of J-M Home Insulation and then the "blowing" begins.

Every corner, every crack within the two walls of your home, between the sheathing and the plaster and lath, and the roof, is packed solidly with almost four inches of J-M Home Insulation, thus making the walls and roof of your home practically im-

permeable to the leakage of heat and making your house fireproof too.

This thick, permanent, fireproof insulation makes your guest room as comfortable as your living-room. The nursery is livable on the coldest or hottest day. No longer will your maid want to leave on the first day of cold weather. Nor do you have to worry about starting your furnace with the first cold spell.

J-M Home Insulation is installed as easily in every type of home—no matter what the construction—shingles, or wood siding, stucco, or brick veneer. There is no fuss—no disturbance—no complication, as the work is done by experienced men only. And it is economical to install into the walls of your house.



"BLOWING" COMFORT

A close-up of a stucco house being filled up with J-M Home Insulation



THE ROOF, TOO, SHOULD BE INSULATED

(Left) When the attic is unused, the roof floor is insulated to stop heat leakage through the roof. When the attic is finished into rooms, J-M Home Insulation is blown into the spaces between rafters.
(Right) The roof on the left-half of this two-family home is insulated with J-M Home Insulation, while the right-half is uninsulated. Note how the snow is melted on the uninsulated roof by heat that passes through the roof.

EXPERT REFINISHING

Small holes which were made for the insertion of J-M Home Insulation are so carefully filled up again that after a few days they match the general appearance of the outside wall

The photograph below was taken a few days after the holes were filled. Can you find the spot where the hole was made?



INSULATING A SUN PORCH

(Right) Opening up space between rafters which are to be blown full of Rock Wool



(Above) The two spaces on the right of this roof are ready to receive J-M Home Insulation while the two on the left are already filled



Every type of home can be "blown with J-M Home



WINTER OR SUMMER

(Above) The home of Mr. Wm. D. Kerr of River Forest, Illinois, is completely comfortable summer and winter

Here is a brick house that has been properly insulated with rock wool (Right)



It makes your
livable the y



FOR HOMES— OLD OR NEW

An "Invisible Home" was blown into the walls of the house pictured at the right

(Left) Another home that has been blown with J-M Home Insulation and thus made more livable. This is Mr. L. C. Parker's residence in Auburndale, Massachusetts



It is possible to show only a few of the hundreds of homes that have been made more comfortable with the tested J-M Home Insulation

ONE OF MANY

(Left) This beautiful home, owned by Mr. Roy P. Crarry of Hartford, Connecticut, is just another of the many comfortable homes made possible with this rock wool Insulation

Photographs published with permission of owners

H. J.

as old as well as new— comfortable— Home Insulation

your home more
year 'round



AN INSULATED HOSPITAL

St. Mary's Hospital of Kankakee, Illinois, is another example of the modern trend for more comfort, fuel savings and reduced furnace attention



FOR LARGE OR SMALL HOMES

Mr. Wm. Smart's residence in Larchmont, New York, is insulated with the thick J-M Home Insulation

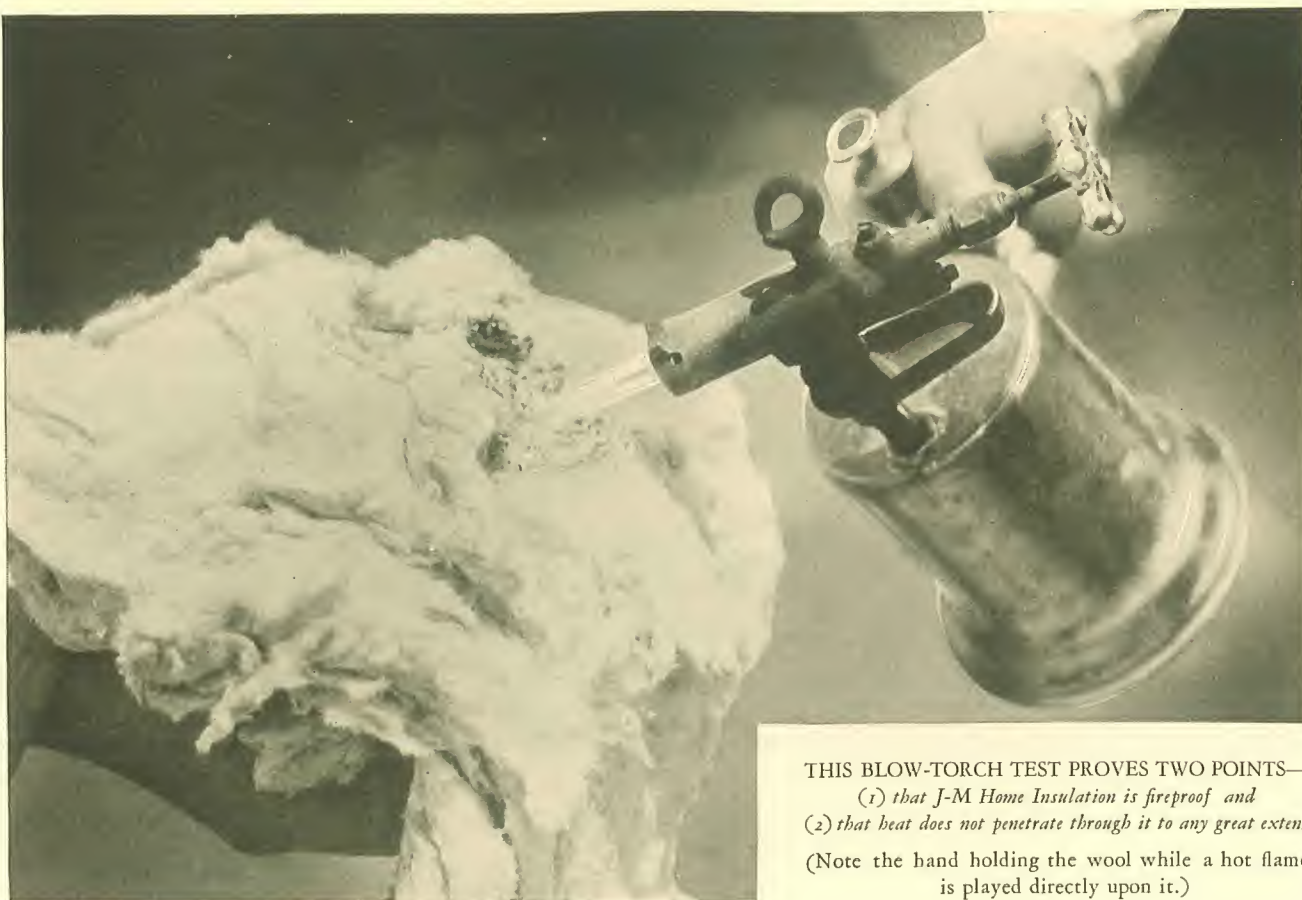
Plan to have your home made completely comfortable with J-M Home Insulation. There is a Home Insulation Company near you

Mr. John Lotz, Jr., President of the Home Insulation Co., of Hartford, Inc., believes in J-M Home Insulation so much that he insulated his home first (see below) and then told his friends about it



Martindale of Glen Ridge, N. J., had J-M Home Insulation installed in his home to make it more livable in every kind of weather





THIS BLOW-TORCH TEST PROVES TWO POINTS—
 (1) that J-M Home Insulation is fireproof and
 (2) that heat does not penetrate through it to any great extent
 (Note the hand holding the wool while a hot flame
 is played directly upon it.)

The Advantages of J-M Home Insulation

THERE are numerous ways of insulating houses, and many forms of insulation on the market today for this purpose, but the most economical and efficient insulation is a *thick* insulation. J-M Home Insulation is nearly four inches thick when packed into the hollow walls of your home, and it is the best type of home insulation obtainable.

The average builder generally builds with initial cost, convenience, and artistic effect as the primary factors, neglecting economy and comfort. J-M Home Insulation is an investment which pays dividends as soon as it is installed, resulting in these immediate benefits:

1. **Reduced fuel costs:** (See pages 22 and 23)

2. **Reduced initial investment in heating plant and radiation requirements:**

Due to the reduced heat losses through the walls and roof, smaller radiators, smaller heating plant and piping can be installed. This saving in heat plant cost can be applied to help balance the cost of insulating the house. (At the Armour Institute of Technology, Chicago, Professor J. C. Peebles conducted a series of tests on frame and brick bungalows 26' x 32' x 10' with insulated walls and ceiling. It was found that with *thick* insulation an average annual saving of 6 tons of fuel was possible, as well as an initial economy of \$375 and \$225 in the cost of installation of hot

water or steam heating plants for such bungalows.) And this was only a bungalow.

Reduced Furnace Operation:

In an insulated house the heat is retained so well that it is possible to reduce materially the usual period of furnace operation by the judicious use of fireplaces, cookstoves, and auxiliary heaters during the chilly days of spring and autumn.

In addition, the heating plant will require considerably less attention because of the ease of maintaining comfortable temperatures.

3. General Home Comfort:

a. Warmer in Winter—no rooms “hard to heat” are found in an insulated house—the north side is as warm as the south and the upstairs rooms are as comfortable as the lower ones. The closed parts of the house remain warmer overnight and the bedrooms are readily warmed up in the morning by closing the windows and turning on the heat.

b. Cooler in Summer—there are no “bake oven” rooms. The second floor rooms can be kept within two degrees of the temperature of the lower floors. The indoor temperature is from eight degrees to fifteen degrees lower than the outside temperature. These figures are from actual observations of insulated houses.

c. Waste attic space and porches formerly used as storage space only, can now be used as extra bedrooms, playrooms, maids’ rooms, dens, etc.

4. Health:

a. Frame walls are apt to be full of cracks and openings that permit air infiltration in large quantities, resulting in drafts. The best heating plant available cannot stop drafts—the cause of colds, sickness, etc.—but *thick* insulation will.

b. Ventilation of rooms is important from a health standpoint. In the insulated house, ventilation is under positive control.

5. Aids in Preventing Fires:

The average frame house, due to its construction, is a fire hazard. The space between the studding makes an ideal draft for the passage of flame through the building.

It is a well-recognized fact that a period of very cold weather is usually accompanied by an epidemic of fires, in many cases with loss of life. A large percentage of these fires may be attributed to the forcing of furnaces and heaters, and the consequent overheating of pipes and flues. In an insulated house the heat is so well conserved that a comfortable temperature may be maintained without forced firing.

Filling open space in the walls and roof with a fireproof material will not only lessen “forced”

ESCAPING HEAT MELTS THE SNOW

In the walls of the house at the right is an “Invisible Home,” which retards the leakage of heat through the walls and roof, making the home more comfortable, winter and summer; more fireproof; and more economical to operate. The house on the left is uninsulated and the heat passing through the roof melts the snow, which clearly shows that heat does leak through, when no insulation is used



furnace operation but will eliminate the spreading of flames between the walls, and will make your home more fireproof.

6. Reduces Noises:

Traffic and Other Outside Noises

Insulation eliminates to a great extent hearing outside noises in a house, which are usually disturbing, especially during sleeping hours or in case of illness.

Noises from Nursery, Bathroom and Kitchen

Insulation when properly incorporated in interior walls and floors prevents to a large extent sounds from dining-room, nursery, bathroom, and kitchen penetrating to any part of the house.

In Apartment Houses and Hotels

Insulation may be used to advantage as a sound deadener in hotel and apartment-house floors and interior partitions, also in the ceilings of stores, pool rooms, and motion-picture theatres which have apartments above.

7. Adds to Property Value

The salability of a house has heretofore been based on its beauty of design, decoration and interior arrangements, with little or no concern paid to annual fuel requirements. This point of view, however, has been changing rapidly due to the public being well informed on the advan-

tages to be derived from an insulated house. In the near future an uninsulated house will hardly be considered a good investment.

It is not so many years ago when gasoline and kerosene lights were still very common usage; yet today you would hardly call a house *without* electrical conveniences a good purchase. In just the same way an uninsulated house is fast going out of date and it will decline in value, while at the same time the value of the *insulated* house has increased.

Try and sell your house tomorrow. What price will you receive for it? Install an "Invisible Home" into your house and then try to sell it. If you do, you will find the value of your home has increased materially almost over night.

Other advantages of J-M Home Insulation

J-M Home Insulation will meet all the requirements described above and, in addition, has the following advantages:

- | | |
|--|--|
| 1. Vermin proof | 9. Will not settle |
| 2. Density can be controlled | 10. Easy to handle |
| 3. Applied dry | 11. Your insulation is registered like Johns-Manville Asbestos Roofs |
| 4. Non-absorbent | 12. Made by Johns-Manville, a leader in the insulation field for over 70 years |
| 5. Non-corrosive | 13. Fireproof |
| 6. Non-conductive of electricity | 14. Thick Insulation |
| 7. Clean to install | |
| 8. Will not spot or soil interior finishes | |

Don't blame the furnace—insulate

For years too much attention has been placed on producing heat and not enough on keeping it where it belongs. If a house were hard to keep warm, the boiler was said to be too small or the quality of the fuel was blamed. If fuel bills were high, the cost of fuel was too high.

But why blame the furnace when the heat produced by it escapes and is wasted? Conserve the heat inside your home and banish furnace cares and home discomforts, with an "invisible home" of J-M Home Insulation blown within the walls of your home. And it will keep heat outside in summer, making your home comfortably cool.



ASK FOR THIS CERTIFICATE

This Certificate of Registration assures you that genuine J-M Home Insulation was installed into your home. When you desire to sell your home this certificate will tell the prospective buyers that there is an "Invisible Home" within your house, which makes your home more comfortable, healthier, quieter, and more economical to operate—and of greater value



"INVISIBLE HOMES" HAVE BEEN "BLOWN" INTO THESE HOMES, TOO

Mr. E. M. Wilson of Fort Wayne, Indiana, does not worry about the weather and heating problems. The walls of his home, pictured above, are filled with J-M Home Insulation, which makes it complete in comfort

...

(Left) And so is the home of Mr. R. E. Hogan of River Forest, Illinois, truly livable since he installed this rock wool insulation in his home



SHE SAVES FUEL

Mrs. L. W. Stephenson, of West Hartford, Connecticut, is saving on fuel bills yet enjoying every comfort on the coldest day as well as in the hottest of summer time. Her home is pictured on the right





IS YOUR HOME AS COMFORTABLE AS THESE?

The brick-stucco house at the top of the page is the home of Mr. A. D. Mason of Glen Ridge, N. J. The picture immediately above is a photograph of the residence of Mr. George W. Merck of West Orange, N. J. Both of these homes are insulated with J-M Home Insulation

Why it PAYS to have an "invisible" home in your home

THERE are four important factors to consider in choosing an insulation for your home and they are all important. The material that gives you all these advantages is the one to use:

1. **Comfort:** Will it make your home most comfortable, not only in winter but in summer, too?
2. **Utility:** Is the material more resistant to the passage of heat than any other material on the market? With it, will your home be quicker to heat and will it hold the heat longer?
3. **Durability:** Has the material lasting qualities or will it burn, rot, deteriorate in use?
4. **Economy:** Will it bring you the greatest return on your investment, not only in better living conditions, but also in greater savings in fuel and heating costs? Will it increase the re-sale value of your property?

In other words, is this insulation the ultimate in home insulation?

Comfort

J-M Home Insulation is the ultimate in home insulation. When blown into the spaces between the studs, it constitutes an "Invisible Home" of thick insulation in the walls of your house, making your home more comfortable the year 'round—cooler in summer and warmer in winter—and more healthful at all times.

Utility

This comfort is brought about by the high resistance that J-M Home Insulation has to the passage of heat. Tests show that this material in its thickness when blown into the stud spaces ($3\frac{5}{8}$ " thick) has more than 4 times higher resistance to the passage of heat than the average 1" insulating board and better than 8 times higher

FROM 2 TO 8 TIMES BETTER

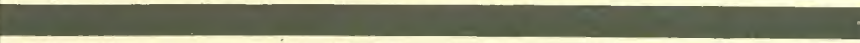

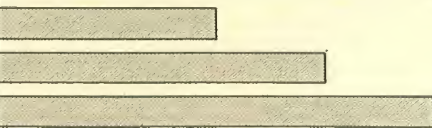
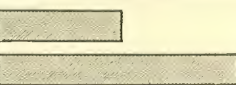
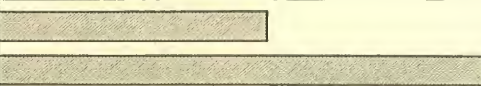
TYPE OF INSULATION	COMMERCIAL THICKNESS	COMPARATIVE VALUES
J-M Home Insulation	$3\frac{5}{8}$ "	
Insulating Board	$\frac{1}{2}$ " 1"	
Pine Corkboard Insulation	1" $1\frac{1}{2}$ " 2"	
Insulating Blankets	$\frac{1}{2}$ " 1"	
Fill Insulations	2" $3\frac{5}{8}$ "	

CHART BASED ON TESTS MADE BY THE BUREAU OF STANDARDS AND PEEBLES, ARMOUR INSTITUTE

FIG. I—J-M HOME INSULATION AS COMPARED TO OTHER INSULATING MATERIALS

This chart shows that the resistance to heat passage of J-M Home Insulation is twice that of the next best type of material and more than 8 times that of the average $\frac{1}{2}$ inch insulating board. J-M Home Insulation holds more heat where it belongs—outside in summer and inside in winter—than any other material used for home insulation

IT PAYS FOR ITSELF

Comparative table of total fuel costs of heating a home 45' long x 25' wide x 20' uninsulated and insulated, with the savings in fuel effected by insulation

Types of Fuel	Cost of Fuel per Year		Annual Savings in Fuel	Gross Return on Insulation Cost % per Year	Net Return on Insulation Cost % per Year*
	Uninsulated House	With J-M Home Insulation			
Anthracite Coal @ \$13.00 ton @ \$15.00 ton	\$176.20 203.40	\$117.60 135.70	\$58.60 67.70	9.16 10.58	8.5 9.81
Fuel Oil @ 7½¢ gal. @ 10¢ gal.	142.50 190.00	95.00 126.80	47.50 63.20	7.42 9.88	6.75 8.98
Gas @ 50¢ M ft. @ 75¢ M ft. @ \$1.00 M ft.	236.50 354.75 473.00	157.90 236.75 315.80	78.60 118.00 157.20	12.3 18.43 24.59	11.15 16.77 22.35

*This net return percentage corrects the gross return for 4% depreciation charge on insulation investment and also 6% interest on the insulation cost. In the returns on coal fuel a counter correction is made amounting to three quarters of 6% interest for a period of six months on the saving in fuel cost. This is done because house owners nearly always lay in not less than 75% of their fuel requirements for the year before the heating season starts. This is not true of either oil or gas, and no counter correction is made for these two.

FIG. II—ECONOMY OF J-M HOME INSULATION

The above yearly fuel costs are based on the consumption of various types of fuels in a two-story house 45' x 25' and 20' high to the eaves, with 8' 4" above the eaves to the peak of the roof. The attic is occupied. This house costs approximately \$640.00 to insulate with J-M Home Insulation. The annual saving in fuel amounts to 33¼% and the net return on the investment, less depreciation and interest charges, ranges from 9.81% to 22.35% depending on the type and cost of fuel used. Could you find a better investment?

than the average ½" insulating board; more than twice that of pure corkboard in 2" thickness, 3 times in 1½" and 4 times in 1" thickness, etc. (See Fig. III).



ULTIMATE IN COMFORT

Mr. E. J. Gallmeyer's home is more comfortable, more free from fire hazard, economical to operate and of greater value than before it was insulated with J-M Home Insulation

In other words, J-M Home Insulation has greater resistance to the passage of heat than any other material used for home insulation.

Durability

J-M Home Insulation is as durable as the rock from which it is made. It will not deteriorate, rot or burn. Subjected to intense heat it will melt, like any rock will, but it will not burn. When blown into the spaces in the walls of your home, it stops up the "flue" the stud spaces make in the walls, thus minimizing this fire hazard. (Try the blowtorch test shown in the photograph on page 14).

Blown in under pressure, J-M Home Insulation is packed in so solidly that it does not have any tendency to settle in long service like some other materials will. It will give the same high insulation after years of service as it does the day after it is installed into your home.

Economy

Although J-M Home Insulation is not the cheapest material to install in your home, it is

by far the best. It is practically the only material that lends itself economically for use in homes now built and occupied, as it does not require tearing down walls for its installation. You do not have to move out while your home is being insulated, as all the work is done on the outside with no dirt, litter or inconvenience to you. And after it is installed, you receive the maximum year 'round comfort, with the greatest saving in fuel during the winter months. (See Fig. II and pages 22 and 23.)

It is just as practical to blow an "Invisible Home" of J-M Home Insulation into a new home under construction, with a greater return on the investment—for not only will it save fuel but when it is used a smaller investment in heating plant is required.

Furthermore, the value of your house will be materially increased.

How heat leaks out

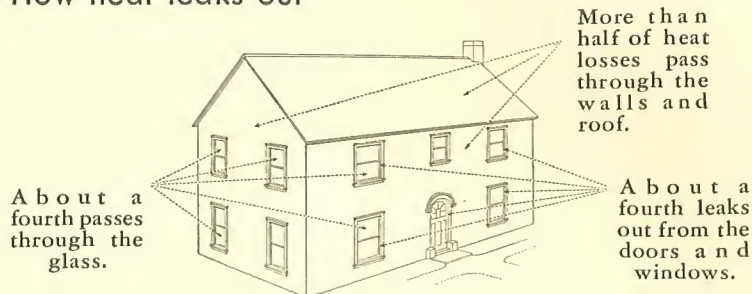


FIG. III—HEAT LOSSES

J-M Home Insulation will stop the greatest possible amount of heat that ordinarily passes through the walls and roof

Insulate for comfort

With all these advantages—more complete year 'round home comfort; more healthful living conditions; durability; and greater saving in fuel in cold weather—J-M Home Insulation is *truly* the ultimate in home insulation, the best and most economical for use in your home.

Unchanged after 21 years

SUBJECT: Investigation of Johns-Manville Rock Wool.

Gentlemen:

. The question of disintegration or other deterioration could only be answered by observation on an installation of some years standing.

An opportunity for obtaining this desired information came unexpectedly to the undersigned in connection with his continued interest in this exceptional material and pertained particularly to the ROCK WOOL in an installation many years old.

The opportunity was presented because of a fire which almost consumed an Ice Plant. The undersigned, on August the 17th, 1920, visited the location of this, and made a careful examination of the installation, bringing out the following substantiated facts:

The Ice Storage Room was insulated in 1897 with six inches of ROCK WOOL. On June 18th, 1918, Twenty-One Years Later, a fire consumed all of this plant except the Ice Storage Room. there was no settling of the Wool during this twenty-one years in position, as would be the case if there was any disintegration or deterioration of the fibres. Its fire resisting character is demonstrated without further comment

The Storage Room at the time of the fire was full of ice, which was uninjured, and was retailed as usual. Ice afterward

was bought by the operating company in carlots, and this Storage Room was used without rebuilding to store ice until distributed, until the spring of 1920. On this visit, the writer found the Ice Storage still intact and apparently in the same condition as immediately after the fire, over two years previous. This ROCK WOOL twenty-one years installed, exposed to the heat of the fire and water used to quench the fire, and over two years exposure to wind, sun, rain and snow showed no deterioration, and exhibited all the enduring qualities of the rock from which it was made.

Samples of the Rock Wool placed twenty-three years before were taken from between the studding and compared with the Rock Wool being manufactured today.

Aside from a slight discoloration due to the fire, smoke and accumulated dirt, even the outside appearance is unchanged.

Age, Fire, Water and Weather Exposure have no Deteriorating Effect on this Insulating Material, or products made from same.

Yours respectfully,

(Signed) G. A. YOUNG,
Head, School of Mechanical Engineering,
and
Director of Mechanical Engineering Laboratories.

PURDUE UNIVERSITY
Lafayette, Indiana

J-M Home Insulation

in ACTUAL USE

HUNDREDS and hundreds of homes have already been insulated with J-M Home Insulation. Here is what some of these owners say about this material that adds so much to the comfort of the home:

Warm in coldest weather

"Since installing Johns-Manville Home Insulation, by your approved contractors, The Wallfill Company of Chicago, I thought you would be interested in knowing the following facts concerning the same. I have already saved about 35% of my previous oil bills and have been able to maintain a constant temperature throughout my building.

"We have one bedroom with north and east windows which before insulating we were unable to keep warm even with storm windows. Now we find that we can keep this room comfortable at all times even in the coldest weather.

"I also wish to take this opportunity to tell you that The Wallfill Company gave us the most considerate and courteous treatment when insulating our house." *Paul Fernald, 1302-04 E. 80th St., Chicago, Ill.*

No sub-zero weather bothers this home

"My heating plant includes twenty-three radiators, yet with only six installed I was able easily to keep my home at a temperature of between 73 and 75 degrees during sub-zero weather. I think this is proof of the efficiency of your material. I cannot say too much in its praise." *Dr. L. W. Schultz, Wabash and Washington St., Chicago, Ill.*

Very comfortable

"My experience with J-M Insulation has been a very satisfactory one. The second floor of my home during the last winter, which was by the way quite mild compared to our present winter, was quite chilly and uncomfortable. I put in your insulation last fall and we have found that the temperature on the second floor this winter

is 2 to 4 degrees higher than the first floor and is very comfortable." *Louis S. Gibson, Attorney, 130 North Wells St., Chicago, Ill.*

50% increase in size of house

"We were very much pleased with the small amount of inconvenience put to in connection with the installation of J-M Home Insulation in the old walls of the house. The job was neatly and effectively done. This installation enabled us to install about 50% increase in the size of our house using the same hot water boiler and it allowed us to install smaller radiators on the new work and still have a warm home. We more than paid for the installation cost in our case due to the following savings: (1) Use of the same boiler without any increase in capacity. (2) Less square footage of radiating surface required on new work. (3) Elimination of 1" sheathing on all new work." *C. B. Oliver, 715 N. Linden Ave., Oak Park, Ill.*

Saves 41.5% on heating bill

"Inasmuch as I planned on heating with artificial gas, the problem of insulation was naturally of utmost importance, and one I carefully investigated. Compared to no insulation, I found that I could save 41.5% of a season's heating bill by the use of J-M Home Insulation and this represented 13.4% more saving than by any of the other insulators investigated." *F. H. Thorne, 162 Aikenside Road, Riverside, Ill.*

8 to 10 degrees warmer

"About nine months ago, Mr. Louis Bowser of the Wallfill Company, Chicago, first approached me relative to the use of J-M Home Insulation in my home at 645 Fair Oaks Avenue, Oak Park, Illinois. I had been looking into a number of these materials to establish their relative merit. After satisfying myself that I had seen all of the principal ones, I placed my order with the Wallfill Company for the insulation of my attic only, for trial purposes.

"... Up to the time this Insulation was installed, we found the summer temperature from 8 to 12 degrees higher on the second floor than on the first, making it almost unbearable for living purposes. Shortly after the installation, an exceptionally hot day was experienced (93° F. outside temperature). A check showed a difference in the temperature registration on the first and second floors of only ½ of a degree F. In the winters of past years, it was always hard to get the second floor temperature up anywhere near the 72° for which our thermostat on the first floor was set. In especially cold and windy weather this would stay down between 58° and 60° all day. During the past winter, although January gave us at least seven sub-zero spells, and February about the same, we have found that with no greater fuel consumption our second floor has been 72°, even before the thermostat on the first floor (which was set for that temperature) would operate. Under conditions which existed before the installation of J-M Home Insulation, it would have been practically impossible to get this result, no matter how much the furnace was forced." *Jas. S. Mahan, Electrical Engineer, 222 West Adams St., Chicago, Ill.*

Courteous and efficient crew

"During the present winter, which has been exceedingly severe and which I regard as a thorough test of the efficiency of J-M Home Insulation, I have noted two things:

"First: The even, unvarying temperature of all rooms in the house, both upstairs and down, and furthermore, the even temperature of each room—it makes no difference whether I sit by the outside wall or the centre of the room.

"Second: I installed a gas furnace this winter as did several of my friends. We all have houses of about the same size and they are all supposed to be insulated. Mine is the only one in which 'J-M Home Insulation' was used. We have compared notes each month as our bills have come in from the Gas Company, and I have been more than gratified to know that my monthly heating bills have been from \$20.00 to \$50.00 less than any of theirs.

"While I am at it I would like to take this opportunity of congratulating you on the courteous and efficient crew of men you sent to make my installation. It was quite refreshing in these days when most such crews are so hard-boiled." *J. Ernest Barss, M.D., 3243-45 Oak Park Ave., Berwyn, Ill.*

A 32% saving in fuel made possible

"Thought you might be interested to know what results we have experienced since having our hollow walls filled with your J-M Home Insulation.

"As you will recall, ours is a painted stucco on frame, with nothing between the inner and outer walls; spaces between all two by fours were filled with four inches of your insulation from top to foundation. Our house is heated by gas, therefore, retention of heat is a big factor with us. We are heating six rooms, a breakfast room, two bathrooms and upper and lower halls, containing twelve radiators.

"Our gas costs for all gas used in the house, for heating, cooking, hot water heater, laundry uses and garage, when necessary, reduced to a per day basis, are as follows: (Figures given to anyone who makes the request.)

"By the above you will see savings run somewhat with the intensity of the weather, or from about 16% to 32%, as it gets colder from fall to winter.

"The new addition I built on my house (before I knew about J-M Home Insulation) was insulated with one of the best advertised brands of 'tuck in's', but I am going to have you fill those new walls with Home Insulation for that part of the house is much colder than the thick insulated part." *E. S. Richardson, 714 Columbia Ave., Oak Park, Ill.*

Below zero weather

"After experiencing the severest winter we have had in many years, I feel your insulation has been given a thorough test.

"According to newspaper accounts, January was the coldest month in eleven years, there being seven 'Below Zero' spells in this region. My heating (gas) bill for this month was less than I had anticipated for a normal January and we were never more comfortable—no drafts and the temperature was even throughout the rooms.

"I had opportunities to match up my heating bills with others where different types of insulation were used. The others were 25 to 30% higher.

"It may interest you to know that my radiation was reduced over one-third of the original figure by using J-M thick insulation." *F. Winquist, 246 Chandler Ave., Elmhurst, Ill.*



Another beautiful home completely insulated with J-M Home Insulation. This is the residence of Mr. F. B. Merrick of East Hampton, Mass.

You, too, can enjoy the comforts of J-M Home Insulation

IT is a simple matter for you to obtain the comforts of home insulation. Somewhere near you, in your own locality, there is a Home Insulation Company, ready to install this unique material into your home.

J-M Home Insulation will bring to you all the advantages of which you have read in the preceding pages of this book—and it will soon pay for itself many times over in reduced heating

costs, improved ventilation, fire prevention and greatly increased living comfort the year-round.

An approved contractor may be identified by the sign on his place of business, which reads "Home Insulation Company" of the city or town in which you live. If there does not happen to be one in your immediate locality, write directly to the nearest Johns-Manville office for his name and address.



Johns-Manville

NEW YORK

CHICAGO

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SAN FRANCISCO

Executive Offices: 292 MADISON AVENUE, New YORK

Cable Address: "JOHNMANVIL" NEW YORK

